

CEAGUARD CG2000

- Versatile central system for emergency lighting
- Built-in automatic testing, without need of a data cable
- Compact dimensions
- Maintenance free batteries
- Flexible programming of operation for individual luminaires
- Easy set up via panel or PC

Representing the latest development in central battery systems, CG2000 is compact, utilises maintenance free lead acid cells and can be built to meet project specific requirements. Each basic unit is fitted with up to 10 individual circuit output modules, each capable of supplying up to 20 luminaires. DLS modules may be added which monitor the status of local normal switched mains lighting circuits, and instruct corresponding emergency luminaires to illuminate when a mains lighting circuit is energised. Alternatively, individual luminaires can be freely programmed to operate as non-maintained or permanently maintained units. Every CG2000 system has built-in automatic testing as standard, with the time, day and frequency of tests programmable to suit the installation, with full logging of results using an optional smart media card.



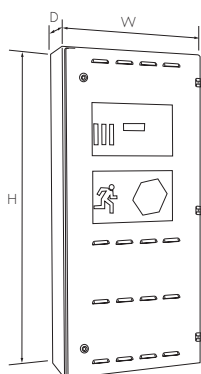
WHERE TO USE CEAGUARD CG2000

- Hospitals
- Museums
- Theatres
- Shopping centres
- Offices
- Industrial facilities
- Nursing homes
- Universities, schools and colleges

SYSTEM OPERATION

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- The load to luminaires programmed for maintained operation is supplied by the system from the normal mains, via a by-pass contactor inside each output module
- In the event of a mains failure, the system provides emergency power to emergency luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage from the system is 230V AC under normal conditions and 220V DC nominal in the event of a complete mains failure
- The unit can either be used with dedicated CeaGuard slave luminaires, or suitable mains luminaires that have been converted for emergency use using a special ballast
- Luminaires can be freely programmed using the control module on the fascia of the cubicle, or via a PC, to operate in non-maintained, permanently maintained or individually switched maintained mode
- Optional addressable DLS maintained light switch modules can be installed to monitor local switched supply circuits. Specific luminaires can then be programmed to switch on and off, in response to the application or removal of a switched live control signal to the relevant input of a DLS module
- Converted luminaires can have their mode of operation changed at any time by simply re-programming
- The CG2000 system carries out regular functionality and full duration tests automatically. The time, day and frequency of these tests are programmable. A log is kept of all test results on the optional smart media card, which can then be viewed after downloading to a PC from the smart media card, which is removable
- No additional data cable is required for the testing function, as all signalling and reporting is carried down the power cable
- Up to 10 individual emergency lighting circuits can be operated from a single CG2000 system
- For larger installations, up to 32 CG2000 systems can be networked, with central control and monitoring

DIMENSIONS



H (mm)	W (mm)	D (mm)
1450/1800	600	300

Note: Height of cubicle is dependant on system output rating

STANDARD SPECIFICATION

General	
Cubicle	Zinc coated steel panels with powder coat RAL7035 Light Grey finish. Lockable door and segregated control gear/battery compartment(s). Top cable entries
Batteries	Valve regulated lead acid, 10 year design life
Charger and controls	
Mains supply	230V ± 10% AC single phase supply, 50 Hz
Battery fuse	Cartridge type
Input terminals	DIN rail mounted near to cable entry, 4mm ² capacity
Charger	Plug in with constant voltage, current limited output. 2 charger bays to allow an extra charger to be fitted for larger systems
Deep discharge protection	Fitted as standard. Automatic shut down of the output module when battery voltage falls below pre-set level, during extended periods of mains supply failure
Monitoring circuits	3 bays to fit internal DLS maintained light switch monitors. Terminals and 24V current loop provided for connection of up to 10 remote DLS/phase monitors. Max total of internal and external DLS = 10. 3 x volt free contacts for remote failure/status indication
Temperature compensation	Fitted as standard. Charger voltage is automatically adjusted with reference to ambient temperature to optimise charging and battery life.
Control module	Composite fascia with 4 line x 20 character LCD display and LED indicators
Alarm warning	Audible alarm fitted internally. Programmable to select conditions under which alarm sounds
Output module	
Mounting	PCB for mounting into vacant bay. Max. 10 per system
Output voltage	220V DC
Max. continuous output	150W during emergency operation
Start output in emergency	270W (< 1min.)
Max. surge current	120 A/1ms
Output terminals	DIN rail mounted, 4mm ² capacity
Voltage regulation	Static 2%, dynamic 6%
Isolation	1kv rms between input and output terminals
Noise level	Effectively silent on both charge and discharge

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CONTROL MODULE & SMART MEDIA CARD

The control module is the heart of the CG2000 system, for set up, programming, testing, monitoring and fault/alarm indication. The module has a port for a plug-in smart media card, which is used to transport data to and from the programming software and has a non-volatile memory to ensure the event log is retained when power is disconnected. Programming is via a 4 x 4 foil keypad, with the menus and data inputted displayed on a 4 line x 20 character LCD display.

The module can be used to program the following:

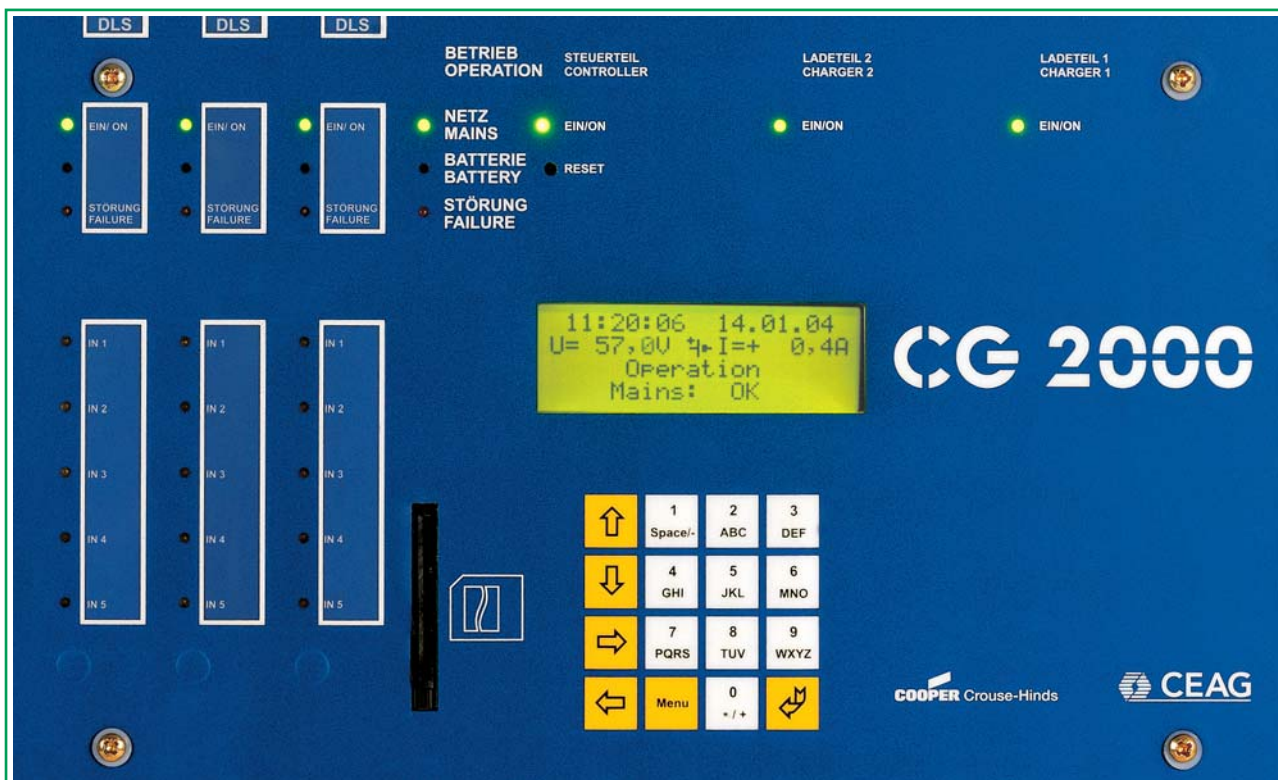
- Date and time set up
- Install and configure output modules, luminaires and DLS/phase monitors
- Perform automatic luminaire search function, which identifies and registers all luminaires on each output module
- Add location text to the addresses of modules, luminaires and DLS monitors
- Designate luminaires as non-maintained, maintained or switched maintained
- Allocate control signals from DLS monitors to appropriate circuit and luminaires that have been designated switched maintained
- Set up and carry out testing operation, including selection of time, date and frequency of functionality and duration tests
- Select conditions under which alarms are activated

In addition, the display indicates:

- LED indication of mains operation, battery operation, system failure and power on status
- Battery voltage
- Battery charge and discharge currents
- Charging fault
- Luminaire fault, with location text
- Deep discharge protection
- Manual reset
- Test operation
- Insulation fault on output circuits
- Fault information

The programming can also be carried out remotely using CG2000 PC software. The programming can be saved onto the media smart card and the card simply plugged back into the control module. The software can read the test logbook from the smart media card, for viewing on the PC and printing.

The control module has 3 volt free contacts for remote status/failure/alarm buzzer indication



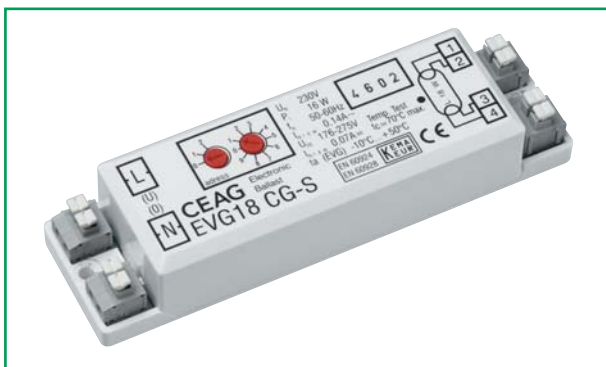
OUTPUT MODULE

Up to 10 output modules can be accommodated, each providing a separate emergency circuit for a maximum of 20 luminaires. The module is rated at a maximum continuous emergency operation output of 150W and start output of 270W.

LUMINAIRE CONVERSION MODULE

CG2000 is designed primarily to operate 8W converted luminaires, which optimise the maximum rating of each output module. Higher wattage fluorescent lamps can also be converted for use with CG2000, up to the maximum rating for the output module. Each module has a rotary switch for addressing.

A comprehensive standard range of CeaGuard CG2000 compatible luminaires is listed on page 58.



LOAD TABLES FOR LUMINAIRE CONVERSION MODULES

Lamp Wattage & Type	Emergency Ballast Lumen Factor	Emergency Operation Running Watts	Start Up Watts
8W T5	0.75	7.25	7.25
9W TC-S	0.75	7.5	7.5
11W TC-S	0.75	10.0	10.0
13W TC-DE/TC-T	0.75	12.1	12.1
18W T8	0.75	16.5	16.5
18W TC-DE/TC-T	0.75	16.5	16.5
26W TC-DE/TC-T	0.30*	17.2	29.5
36W T8	0.30*	17.7	38.8
58W T8	0.30*	22.1	58.1

Notes:

1. Loading of an output module cannot exceed 150W running and 270W start-up
2. * Indicates a conversion module that can operate at pre-selectable emergency BLF between 0.30 & 1.00. Running watts is affected by BLF setting. Contact Central Systems Technical Sales for details
3. The conversion module only supplies 1 lamp in multi-lamp luminaires. Separate gear must be used to operate mains only operation lamps
4. A comprehensive range of Menvier 8W CeaGuard CG2000 compatible luminaires is shown on page 56

SUPPLY CIRCUIT MONITOR

Provides signal to the CG2000 unit in the event of supply circuit or phase failure, interrupting the 24V current loop of the panel, which energises all emergency luminaires. Dims: H85 x W53 x D65mm. Terminals - 2.5mm².

REMOTE INDICATOR/ISOLATOR

Remote indication of status of CG2000 panel. LED's indicate mains operation, battery operation and system failure. Indicator is powered by the CG2000 system. The panel can be isolated by a built-in key operated switch, in which case the output will be disabled even in the event of a mains failure.

Dims: H180 x W80 x D55mm. Terminals - 2.5mm² wall mounting.

INTERNAL DLS MODULE

Up to 3 DLS maintained light switching modules can be fitted internally to CG2000. The units have 5 inputs to monitor the status of local switched circuits. Switched maintained emergency luminaires are programmed to illuminate in response to a switched mains signal being applied to the selected input of the relevant DLS unit to which they are assigned during system programming. Terminals: Connection via DIN rail terminals at top of cabinet.

EXTERNAL DLS MODULE

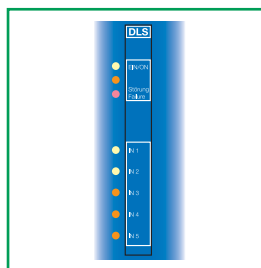
External, DIN rail mounted DLS modules can also be fitted, up to a combined total of 10 internal and external modules. External modules have terminals for the connection of a 24V power loop and data cable to provide a signal back to the CG2000 unit, from the 5 DLS inputs. Alternatively, the module can provide 2 x DLS inputs and a 3-phase monitor, capable of monitoring a single 3-phase supply or 3, single phase circuits. If an external DLS unit is configured to operate as a 3-phase monitor unit, then all emergency luminaires will illuminate in the event of failure of any monitored circuit. Dims: H76 x W75 x D70. Terminals - 2.5mm². Each module has a rotary switch for addressing.



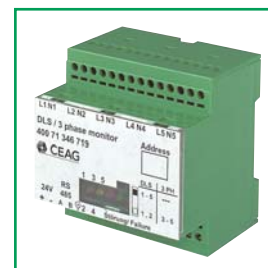
Supply circuit module



Remote indicator/isolator



Internal DLS module



External DLS module

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SYSTEM DESIGN & APPLICATION

- Determine the number and type of emergency luminaires to be used using the spacing charts at the rear of this catalogue
- Use the plans and quantity of luminaires to determine the number of circuits required
- If designated luminaires are required to operate in switched maintained mode, calculate the quantity of internal and/or external DLS modules required
- If it is inappropriate to operate a luminaire in the permanently maintained mode, circuit monitors should be used to switch them on in the event of a failure of the final circuit to the normal mains luminaires in that area
- Using table on page 51, calculate that luminaires chosen per circuit do not exceed load ratings of output module
- Contact Cooper Lighting and Safety to determine configuration of CG2000, charger(s) and batteries
- Locate the CG2000 unit where the visual indication/alarms can be readily seen and heard. Alternatively use a remote indicator. Select a location where fire risk is minimised (see notes on ventilation)
- Output wiring should be in fire protected cable
- As the luminaires are individually addressed, circuits can be teed or spurred, as is convenient
- Set up the system using the control module keypad or via the PC software, adding location text to circuits, luminaire addresses and DLS modules. Program the mode of operation of each luminaire. Program date, time, frequency, duration of tests
- Up to 32 CG2000 systems can be networked, with central control and monitoring. Contact Central Systems Technical Sales for full details
- The Cooper Lighting and Safety Service Department can offer a programming and commissioning service

INSTALLATION NOTES

- A full set of Installation, Operating and Maintenance Instructions is supplied with each system to assist the installer carry out the work efficiently and safely
- Adequate ventilation has been provided in the cubicle to allow a safe dispersal of gases but it is important to remember that when choosing where to locate systems, particularly those with large batteries, attention must be paid to ensuring a build-up of potentially explosive gases is avoided
- Please refer to the System Design section for details of ventilation calculations
- Warning notices should be displayed on entry doors to battery rooms:
BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING.

CG2000 SYSTEM REFERENCES

Description	Cat. No.
Cabinet with control module and charger	CG2000
Output Module	CGMOD
Smart Media Card	SMC
Internal DLS	DLSI
External DLS	DLSE
Batteries	On request

Note: systems are designed and manufactured to meet a specific project, using modular components. Contact Central Systems Technical Sales for full details



CG2000 WIRING SCHEMATIC

DLS modules can be used to monitor normal switched mains lighting circuits. When the mains lighting circuit is energised, corresponding emergency luminaires can be programmed to illuminate. In the event of a failure of the monitored circuit, all emergency luminaires will illuminate at emergency BLF level.

